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09/484,911	01/18/2000	Junichi Hagiwara	1503.63544	1265

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EXAMINER
FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/484,911	Applicant(s) HAGIWARA ET AL.	
	Examiner Jean B Fleurantin	Art Unit 2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-16 are remained pending for examination.

2. Applicant's arguments filed on 06/28/02 with respect to claims 1-16 have been fully considered but are not persuasive.

Response to Applicant' Remarks

3. Applicant stated on pages 5 and 6 that 'Kuechler et al. do not address full text searches in which of several combinations represents a query which includes a plurality of search conditions.' However, Examiner disagrees because Kato includes the step of fine search peculiar to full text search can be attained by providing a query resolver for extracting one satisfying logical condition neighbor condition and contextual condition described in the search expression based on the output result of the search engine in the text search; which is readable as a full text (see col. 22, lines 16-20). Also, in column 79, lines 47 through 49, Kato further teaches steps of a fine search peculiar to full text search can be attained by providing a query resolver at the time of the text search to extract only texts fitting to logical conditions. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Kuschler and Kato with the steps of a full text. This modification would allow the teachings of Kuechler and Kato to improve the accuracy of the search system and method based on search condition combinations, and provide a full text search system which can answer the aforementioned problems (col. 11, lines 11-13).

Applicant stated on page 6 that 'Kuechler et al. do not describe anything to teach or anticipate a manner in which all the queries of a combination are specified collective.' However, Examiner disagrees because Kuechler includes the steps of a query is processed by accessing the pertinent topological map or maps based upon the specifications of the query and identifying from the map or maps the information elements in the information base which meet the specifications of the query, simple queries concerning a single attribute are resolved by accessing the pertinent topological map for that attribute while more complex queries involving multiple attributes are resolved by combining the topological maps for the attributes involved in the query in accordance with the logical operators of the query; which is readable as queries of a combination are specified collective (see col. 2, lines 49-59).

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification.

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecussion and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuechler et al. (US Pat. No. 4,811,199) in view of Kato et al. (US Pat. No. 6,094,647) ("Kuechler"), ("Kato").

As per claims 1, 12 and 15, Kuechler substantially teaches a search system as claimed, comprises an inputting device instructing specification information for collectively specifying a plurality of search condition combinations (thus, the input subsystem accepts input from an input device 22 the input device 22 is capable of receiving information base elements where an information base element is comprised of one or more attributes and the corresponding values for these attributes the input subsystem 10 is used to process the individual information elements as they are input to the information base; which is readable as an inputting device instructing specification information for collectively specifying a plurality of search condition combinations) (see col. 5, lines 50-59), each of the combinations representing any search query which includes a plurality of search conditions (thus, a search for all information elements in the information base that have certain values of certain fields or attributes, data processing systems typically require the query specification to employ exact values in order to retrieve the desired information from

the information base; which is readable as each of the combinations representing any search query which includes a plurality of search conditions) (see col. 1, lines 21-26). But, Kuechler does not explicitly indicate the steps of a full text search based on the specification information. However, Kato implicitly indicates the step of fine search peculiar to full text search can be attained by providing a query resolver for extracting one satisfying logical condition neighbor condition and contextual condition described in the search expression based on the output result of the search engine in the text search; which is readable as a full text(see col. 22, lines 16-20); also, in column 79, lines 47 through 49, Kato further teaches steps of a fine search peculiar to full text search can be attained by providing a query resolver at the time of the text search to extract only texts fitting to logical conditions. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Kuschler and Kato with the steps of a full text. This modification would allow the teachings of Kuechler and Kato to improve the accuracy of the search system and method based on search condition combinations, and provide a full text search system which can answer the aforementioned problems (col. 11, lines 11-13).

As per claim 2, Kuechler substantially teaches the search system as claimed, wherein said inputting device inputs the specification information in a form of a table (thus, each element in the information base is comprised of attributes each attribute type can be either 'alpha' meaning that it can store characters or digits or 'integer' meaning that it can store an integer value, the information base contains 103 records and slot 103 is currently the end of the file for this

information base; which is readable as wherein said inputting device inputs the specification information in a form of a table) (see cols. 6-7, lines 51-19).

As per claim 3, in addition to the discussion in claim 1, Kuechler further teaches a generating device automatically generating the plurality of search condition combinations based on the specification information (thus, the output map which is generated indicates which of the elements in the superset do meet the specification of the query and which of those elements may meet the specification those elements which the map indicates do meet the specification are known with certainty without ever having accessed or inspected the stored information elements themselves, which is readable as a generating device automatically generating the plurality of search condition combinations based on the specification information) (see col. 6, lines 14-21).

As per claim 4, in addition to the discussion in claim 1, Kuechler further teaches steps of a changing device changing a portion of search conditions included in the specification information (thus, the output map which is generated indicates which of the elements in the superset do meet the specification of the query and which of those elements may meet the specification those elements which the map indicates do meet the specification are known with certainty without ever having accessed or inspected the stored information elements themselves, now only those elements which the output map indicates may meet the specification are accessed and inspected to determine which ones do meet the specification; which is readable as a changing device changing a portion of search conditions included in the specification information) (see col. 6, lines 14-24).

As per claims 5, 13 and 16, in addition to the discussion in claim 1, Kuechler does not explicitly indicate steps of an outputting device collectively outputting output information corresponding to the plurality of search results. However, Kuechler implicitly indicates steps of the output subsystem 30 is given a query 32 as input, i.e., a reference to the information on the basis of a specification of the values of one or more attributes the query 32 may be entered into the output subsystem 30 by any suitable input device and may for example utilize the same input device 22 as is employed by the input subsystem 20, the output subsystem 30 then utilizes the storage device 14 to retrieve the topological maps 16 of the attributes referenced by the specification these topological maps are then manipulated in accord with the query the end result being one or more output maps 18 indicating information elements which either do meet the specification or may meet the specification; which is readable as an outputting device collectively outputting output information corresponding to the plurality of search results (see cols. 5-6, lines 62-8); also in column 6, lines 24 through 31, Kuechler further teaches steps of the results of the query are communicated to the user by an output device 34, the output subsystem is capable of rapidly resolving various kinds of queries including queries as to exact values of certain attributes range queries and complex queries about multiple attributes using Boolean logic. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Kuschler with steps of an outputting device collectively outputting output information corresponding to the plurality of search results. This modification

would allow the teachings of Kuechler to improve the accuracy the search system and method based on search condition combinations.

As per claims 6-7 and 9-10, the limitations of claims 6-7 and 9-10 are rejected in the analysis of claim 5 above, and these claims are rejected on that basis.

As per claim 8, Kuechler substantially teaches the search the system as claimed, further comprises a reflecting device reflecting a search result regarding a changed portion on the output information when the portion of search conditions included in the plurality of search condition combinations is changed (thus, the system generally indicated by the reference character 10 is used to access and manipulate an information base 12 which is stored in a storage device 14, the information base 12 is comprised of one or more information elements each information element is comprised of one or more attributes 'or fields' one or more of these attributes having an orderable value by "orderable value" is meant that the attribute of the element has a value capable of being evaluated and being placed in some order in relation to the value of that attribute for other elements in the information base; which is readable as a reflecting device reflecting a search result regarding a changed portion on the output information when the portion of search conditions included in the plurality of search condition combinations is changed) (see col. 5, lines 35-46).

As per claim 11, in addition to the discussion in claims 1 and 5, Kuechler further teaches performing an information search based on specified information (thus, a search for all information elements in the information base that have certain values of certain fields or

attributes, which is readable as performing an information search based on specified information) (see col. 1, lines 21-23);

obtaining a plurality of search results for the plurality of search condition combinations (thus, a search for all information elements in the information base that have certain values of certain fields or attributes, data processing systems typically require the query specification to employ exact values in order to retrieve the desired information from the information base; which is readable as obtaining a plurality of search results for the plurality of search condition combinations) (see col. 1, lines 21-26).

As per claim 14, in addition to the discussion in claims 1 and 5 above, Kuechler further teaches performing an information search based on specified information (thus, a query is processed by accessing the pertinent topological map or maps based upon the specifications of the query and identifying from the map or maps the information elements in the information base which meet the specifications of the query, which is readable as performing an information search based on specified information) (see col. 2, lines 49-53).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kato et al. US Patent Number 5,519,857 relates to an information retrieval system.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

7. Any inquiry concerning this communication from examiner should be directed to Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on Monday through Friday from 7:30 A.M. to 6:00 P.M.

If any attempt to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Mrs. KIM VU can be reached at **(703) 305-8449.** The FAX phone numbers for the Group 2100 Customer Service Center are: ***After Final* (703) 746-7238**, ***Official* (703) 746-7239**, and ***Non-Official (703) 746-7240***. NOTE: Documents transmitted by facsimile will be entered as official documents on the file wrapper unless clearly marked "***DRAFT***".

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2100 Customer Service Center receptionist whose telephone numbers are **(703) 306-5631, (703) 306-5632, (703) 306-5633**.

Jean Bolte Fleurantin

September 5, 2002

JBF/

KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100